



Presidents Message

SBARA 2002 President—Mike AB6CV

Last month's meeting went off well. I have had positive feedback from it. We could really use some help from the membership with new topics for monthly meetings. If you have an idea for a meeting topic, tell Al Rendon our Activities Manager.

I am disappointed to report that no one has stepped forward to take a leadership role for Prima Vera. Because of this SBARA will be unable to participate this year. It is a huge loss of revenue for the club. And I doubt we will be invited back next year.

Some people have asked me "why don't you do it?" Well a couple of reasons. I have never been to a Prima Vera event. I have no idea what it is all about. And secondly I have no time to add any more activities to my crowded schedule.

This is a voluntary organization. I simply can't force people to do something they don't want to do.

I will work with the Treasurer to see how many more years we can stay in business as a club. SBARA is not broke. But if you spend more than you earn you won't last long. I am not going to pull an Enron and say all is well when it isn't. We may have to make some deep cuts to our budget in order to compensate for the loss of revenue. Also please pay your dues. It will really help us out. (That is the obligatory President's plea for money. hihi)

I want to thank all those people who had volunteered to go to Prima Vera and help out. Thank you all. I hope to have better news in upcoming months.

Mike Studer, AB6CV

SBARA Meeting

SBARA meets every third Wednesday at 7:30 PM at the Community Center in Fremont.

March Program

The meeting begins at 7:30 at the Community Center....

What's In This Issue

President's Message	1
Secretary Report	2,3
Calendar of Events	3
Field Day News	4
Freebies	4
Repeater (015) News	5-7
CERT News and Happenings	8-10
Doug Kamps Photos	11
2002 SBARA Officers	12

SBARA Meeting Minutes (Monthly Membership) February 20, 2002

The Meeting was opened by President Mike Studer / AB6CV at 7:40 PM

James Lee / N1DDK announced the new repeater (WA6PWW) was operational as of Monday February 18 at 2:00 PM. James related that the machine now hears much better but exhibits a wine in the audio caused by some RF leakage and is suffering from muffled, muddy sounding audio. A compression circuit is lacking and solutions are being contemplated.

Bill / AA6PA offered a brief report concerning RS15 and AO40. AO40 currently lacks gyroscopic stabilization and currently is in an eclipse period that makes usage impossible.

Mike Studer offered a Qubesat update. PCB's are laid out and a design review is in progress.

Bill / AA6PA indicated that the Palo Alto Amateur Radio Association had made a big buy of the 80 Meter PSK31 "warbler" kits that are available for \$40.00 each. Your contact is Joel / KA7TXV

Jim Wood / KE6IVA provided the following Treasurer's report:

Beginning Balance 1/16/2002	\$ 411.66	
Receipts this period	\$ 218.63	
Membership dues	\$ 140.00	
50/50	\$ 40.00	
Christmas Dinner	\$ 23.63	
Donation	\$ 15.00	
Expenses this period	\$ 103.30	
P.O. Box rental	\$ 45.00	
January Newsletter	\$ 58.30	
Balance—02/20/2002	\$ 526.99	Checking
CD's - 01/31/2002	\$2,006.47	Statement

Membership Report:

Regular Members	8
Family Members	0 (0 paid)
Senior members	2
Student members	0
Total paid members:	10

Mike Studer indicated that he had contacted the ARRL East Bay Section Manager via email and requested the allocation of more APRS frequencies on VHF / UHF.

James / N1DDK proposed a next evolution of APRS and complained that the protocol is broken. Suggested a possible club project.

The evening presentation / program was presented by Dick Kors / KM6EP

Dick discussed "Cansats" designed to emulate a single pass of a LEO (Low Earth Orbit) launched by rocket and returned to the ground via parachute. A number of Cansats and their contents (video cameras / Transmitters) were on display.

SBARA Meeting Minutes (Monthly Membership) February 20, 2002 (cont'd.)

A future project was discussed featuring a airplane that could take off, fly a path and land without operator intervention. (Radio technology / applications not clear perhaps photo recon?).

Various videos in MPEG format were shown featuring video footage shot from RC Airplanes, from rockets in flight, and from 1 of 2 colliding RC planes transmitted to the ground via radio. A video shot by a Camcorder mounted on a RC helicopter was also featured.

Mike Studer presented some 6 Meter RC transmitters. A 1/4 scale Piper Cub RC plane with a 21CC engine and a RC glider (flying wing) all 6 Meter controlled.

The meeting closed at the end of the presentation.

Sam Severs WS6S, SBARA Secretary

Amateur Radio Calendar of Events

March 9 Foothill Flea Market
March 11 Sunnyvale VEC Ham Radio Exam Session - Fremont
March 14 **SBARA** [Board Meeting](#)
March 17 Transmitter Hunt - Bay Hunt - N1DDK/WD6CJK
March 20 **SBARA** [Meeting -](#)
March 30 Transmitter Hunt - 10AM Pleasanton-Pack A Lunch

April 6 Transmitter Hunt - Fremont Challenge Hunt - KF6OMC
April 7 Daylight Savings time Begins
April 7 Livermore Swap meet
April 8 Sunnyvale VEC Ham Radio Exam Session - Fremont
April 11 **SBARA** [Board Meeting](#)
April 13 Foothill Flea Market
April 17 **SBARA** [Meeting -](#)
April 20 Transmitter Hunt - 10:00AM Alamont Pass - KN6FW
April 20 Baker to Vegas 120 Mile Relay Race
April 21 Primiveria Bicycle Race
April 26-28 Visalia International DX Convention

May 4 Transmitter Hunt - 6:00pm! Fremont
May 5 Livermore Swap meet
May 6 Sunnyvale VEC Ham Radio Exam Session - Fremont
May 11 Foothill Flea Market
May 11 Reno Spring Ham Swap
May 9 **SBARA** [Board Meeting](#)
May 15 **SBARA** [Meeting -](#)
May 17-19 Dayton Hamvention
May 18 Transmitter Hunt - Fox's Choice

June 22-23 Field Day 2002

October 18 Pacificon

March Program Announcement



Let's Go Flying!!!

Mike and his 1/4 Scale Piper Cub....

Field Day 2002 News

FIELD DAY 2002

Field Day 2002 rules, packets now available: The ARRL Field Day 2002 rules and packets now are available on the ARRL Web site <<http://www.arrl.org/contests/forms/>> as Adobe PDF files (ASCII files will be updated by next week). The ARRL has adopted rule changes affecting Field Day, including the addition of a "Get On The Air" (GOTA) station, which replaces the Novice-Technician station. Field Day 2002 will mark the first in which stations throughout the Americas have been invited to participate.

All International Amateur Radio Union Region 2 countries--North and South America--may take part in Field Day, which takes place June 22-23 this year.

For more information, contact ARRL Contest Branch Manager Dan Henderson, N1ND, contest@arrl.org.

Freebies

Six fiberglass masts, 1.25" OD: Two 14 feet long, three 12 feet long, one 6 feet long.

Antenna Grade Aluminum Tubing: Enough for 21 MHz or higher Yagi. Needs boom.

Commercial Grade Tubing: Enough for 14 MHz or higher quarter-wave vertical.

Stainless steel quarter-wave whip for 10 meters.

Ted Cameron N6BFO, 656-1913, bfo-

SBARA List Server—<http://mailman.qth.net/mailman/listinfo/sbara>

What's Happening With The 147.015 Repeater

James Lee N1DDK

I'm sure most of you have noticed that things have changed a few times on the 147.015 WA6PWW repeater.

General background

The 147.015 repeater along with 442.6, 440.0, and 223.9 repeaters are housed in a single rack at the base of a tower in the hills above the Niles area of Fremont. The tower site is on a private ranch. The tower site, as most tower sites is managed by American Tower. The Tri-County ARC leases the space for the repeaters directly from the rancher. Other transmitters at that site include the FM broadcast station at 104.9 (about 5KW), a 3.5KW 900 MHZ pager system, and other equipment I am not exactly sure about. There are two smaller boxes about 2 feet tall I believe one has other 900 MHZ pagers, and the other is some how related to KICU.

Doug Campbell WB6GBE is the person who takes care of the repeater maintenance, and site rental.

For over a year, the repeater has had some trouble hearing people and getting out. A little less than 1 year ago Doug and I replaced the feed line from the block house (repeater) to the base of the tower. At that time we found that the underground conduit was full of water, and that the water had wicked up into the connector that fed the feed line that runs up the tower. We did our best to empty the conduit with a shop-vac, and replaced the feed line with a piece of ½ inch hard-line and two new connectors. We did our best to seal the connections and the conduit. At that time we noticed that the output power from the transmitter was much below the expected power. The new feed line helped the reception only slightly.

Eventually a new repeater was ordered.

Repeater Basics

A repeater has three main parts (aside from the antenna system) A receiver, a transmitter, and a controller. The transmitter and receiver are a Motorola radio intended to be a repeater, and the controller is a LINK Communications RLC 4 controller. All of this equipment is well suited for the task at hand.

How did the new repeater come together?

Motorola sells everything individually and it took quite a while to procure the proper parts. The Radio, cabinet, fan, cables from the radio antenna connectors to the back of the cabinet, and control cable from the radio to the cabinet had to be purchased separately. Even the fan switch was not included, but we found that at Dale hardware.

A custom cable was made from the back of the Motorola Cabinet to the LINK Controller. Everything was bench tested for about 1 week and the new radio and controller was installed Monday February 18, 2002.

What's Happening With The 147.015 Repeater

James Lee N1DDK (cont'd.)

Installing the New Repeater

Although everything was ground tested, things did not go perfectly when installed. The audio sounded muffled and there was a whine on the audio. The muffled audio was caused by the need of 6dB/Octave of pre-emphasis from 300Hz to 3000Hz. This was discovered by a second look through the radio specifications. The whine was coming from the repeater controller, but exactly where was not yet confirmed.

Another Attempt and Things Got Better

On Saturday, March 2, 2002, Andy WD6CJK, Doug WB6GBE and James N1DDK went back to the site with a long list of tools and supplies, and a long list of tests to run. In the end, it was determined that the audio whine was coming in from the DC power supply to the controller. A spare controller with better noise immunity was installed while the link controller is being improved. The spare controller had been pre-prepared with the needed audio pre-emphasis. And other than having been prepared with the wrong gender connector was ready to go.

Our tests at the site found nothing wrong with the antenna system. The antenna system was properly reducing the FM broadcast and repeater output as seen by the receiver to tolerable levels. The Transmit antenna had a low SWR, and with the wind blowing we did not see any fluctuations that might explain the odd sounds sometimes heard on the repeater. We did notice however that the receiver sees a huge signal on 147.360 which is quite close to the receive frequency on 147.615. This signal is much stronger to our receiver than even our own transmitter that shares the same antenna. 147.360 is the output of a repeater located across the bay. This strong signal may be one of the interference sources. If it is a source of interference a special notch filter can be added to reduce this signal.

The power supply had a 400mV drop when the transmitter was active. We minimized this by shortening some extra length on the power cable. The power to the controller was also moved to be connected directly to the supply rather than connected at the back of the radio. The power supply had a small ripple when the transmitter was idle, but when the supply was warmed up and transmitter was running, the ripple increased to about 1V peak to peak with both RF and audio frequency components. This ripple was the whine that was heard after a few minutes of transmission.

Continuing Issues

We have noticed that in the late after noon, 3:00PM to 5:00PM there are strange things happening with the repeater. We are currently observing them to predict when we should go to the site with a good chance of observe the problem.

Send More Money – Mom & Dad!

As you can see things are improving, and as with all volunteer efforts, things take time. The cost of the new equipment has greatly exceeded recent donations. Any donation would be appreciated to help keep the maintenance and site rental budgets afloat. Donations can be made to SBARA, which will then re-donate the money to Tri-Counties ARC. This scheme is likely to be tax deductible due to SBARA's tax status, (as always consult your Tax Advisor) You can also donate directly to Tri-County ARC care of Douglas C Campbell 38719 Overacker Ave Fremont Ca 94536.

What's Happening With The 147.015 Repeater

James Lee N1DDK (cont'd.)

About the pictures:

Here you can see the Front and back of the new Motorola Radio and Link Controller. Notice the large ferrite beads on the cable between them as they sit on the workbench in Doug's garage.



Here is the Rack where all the radios are installed.



This is Doug installing equipment.



CERT Comm News

HAM CRAM CLASS SET

The easiest way to get your amateur radio license is through one of these Cram Classes. Spend a day studying, take the test, 96% of people pass.

Next class:

Apr 27, 2002

8:30 AM - 5:00 PM

Foster City Community Center

1000 East Hillsdale Blvd.

Foster City

Fee: \$25.00

To register, contact Ross Peterson by e-mail at wb6zbu@arrl.net Your District Communications Officer will be your 'sponsor'.

FIRST MONTHLY CERT RADIO DRILL A SUCCESS

The first of the new monthly radio drill, held on Tuesday February 12th at 8:00 PM went off without a hitch. Net Control operator Steve Wilson and Assistant Net Control Gerald Blackstar, both from the Centerville District, lead the drill. Steve is the new District Coordinator for Centerville and Gerald is their Communications Officer.

Representatives from each Fremont CERT district checked in on the 'traditional' repeater and then successfully moved to the tactical repeater. Participants also practiced "repeater down" procedures, switching from duplex to simplex operation on the repeater's output frequency.

The only anomaly was the lack of representation from Union City, who usually make a strong showing at these events. Union City: we missed you! Catch you next time?

Special thanks to everyone who joined us in this event.

The next "on-air" radio drill will be:

Tuesday March 12, 2002

8:00 PM

N6OXR repeater 146.940, negative offset, PL 123.0Hz.

Please join us and practice message formatting and handling. Mission San Jose will be Net Control. These drills take place on the second Tuesday of each month.

Emergency Communications Integrated into CERT Training

Emergency Communications is now an integral part of the standard 6-class CERT training program. The content was developed by a CERT Comm team lead by Rudi Wiedemann, Niles Communication Officer. Rudi also taught the first session, now part of Class 1, which introduced emergency communications concepts and basic radio protocol. The class focused on the use of FRS radios as part of CERT.

The use of FRS radios was also an integral part of the recent CERT Class #5, attended by 32 students. The class went as follows:

Emergency Communications Integrated into CERT Training (cont'd.)

- 1) The premise for radio operation was that all teams were working in the Irvington District that night
- 2) Four teams were formed, Alpha thru Delta, then the whole group was gathered together
- 3) Each team was given an FRS radio and shown how to operate them
- 4) A demo was given on how Teams contact Net Control, and vice versa
- 5) Teams were instructed to check-in with Net Control upon arrival AND departure from each training station.
- 6) As each team moved to the next training station, they changed to a new Team Radio Operator (TRO).

A second "Net" was set up on a different FRS channel to help the staff and to help synchronize the team rotation. While it was not a "directed net", CERT Comm provided a "control" operator to coordinate the event.

Experiences and lessons learned:

- 1) The students picked up the communications protocol remarkably well and quickly
- 2) One TRO went "off channel" and recovered on their own
- 3) Another TRO experienced radio problems, and requested a replacement which was dispatched to them
- 4) A private party was jamming the training channel, so everyone was instructed to move to another channel whereupon all teams promptly checked back in to Net Control.
- 5) Teams were held at their stations until all instructors were done with their exercise, then rotated simultaneously
- 6) Student consensus at the debriefing was a positive interest in learning more about FRS and radio communications in general, and we took 12 (38%) new pre-registrations for the FRS Workshop.
- 7) Students started asking about how to use FRS radios WITHIN their teams. (see FRS Workshop)
- 8) Instructors should be offered the assistance of a dedicated radio operator so as not to distract them

The CERT Comm team would like to thank the Fire Support Services staff for the privilege of integrating radio training into the mainstream of the CERT training program. We believe the training was well received by the students as a worthwhile part of the program. The radio training is applicable to both FRS and Ham radio operation, and should provide for better CERT effectiveness during an emergency. (This article was modified from a dispatch from Rudi Wiedemann)

TRAINING CLASS UPDATE

There are no major changes to the class schedule from our previous announcement. Some minor corrections include: Most classes at the Fire Administration Building on Liberty Street will be held in the Training Room. The exception is "Communications, Command and Control Part 1" which will be in the Centerville Room. There will be someone at the door to direct you.

Some of the classes run a little longer than first advertised in this newsletter. Check our website for details. There is still room in all classes, except the J-Pole Workshop. So check out our website and register for a class today!

Our website is <http://www.qsl.net/kg6adr>

WEBSITE UPDATES

We've updated the website to include the latest class schedule information, corrected contact information, included info on the Ham Cram Class and the new Monthly On-Air Drill. Check it out at <http://www.qsl.net/kg6adr>

Basic Field Deployable Antennas

The class "Basic Field Deployable Antennas" will NOT be held at CERT Central as previously advertised. The correct information is:

Date: Saturday, March 30, 2002

Time: 9:00 AM - 1:00 PM

Location: Fire Station #7

43600 South Grimmer Boulevard

(corner of Grimmer & Auto Mall)

Fremont, CA

Fee: FREE

Register: E-mail nfpeterson@bemis.com

The class description is:

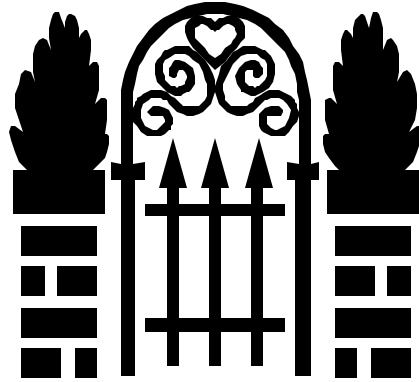
The antenna is the most important part of any radio rig. But how can you get an antenna up and running during an emergency? In this course you will learn the practical characteristics of some different types of antennas, connectors and cables. We will show you some antennas you can build quickly and easily from readily available items. Most importantly, we will show you how to set up and operate your antenna safely. We will also show how to set up a "jungle tower" to get your antenna 40' up in the air!

Inside Story Headline

This story can fit 150-200 words.

One benefit of using your newsletter as a promotional tool is that you can reuse content from other marketing materials, such as press releases, market studies, and reports.

While your main goal of distributing a newsletter might be to sell your product or service, the key to a successful newsletter is making it useful



Caption describing picture or graphic.

to your readers.

A great way to add useful content to your newsletter is to develop and write your own articles, or include a calendar of upcoming events or a special offer that promotes a new product.

You can also research articles or find "filler" articles by accessing the World Wide Web. You can write about a variety of

topics but try to keep your articles short.

Much of the content you put in your newsletter can also be used for your Web site. Microsoft Publisher offers a simple way to convert your newsletter to a Web publication. So, when you're finished writing your newsletter, convert it to a Web site and post it.

Inside Story Headline

This story can fit 100-150 words.

The subject matter that appears in newsletters is virtually endless. You can include stories that focus on current technologies or innovations in your field.

You may also want to note business or economic trends, or make predictions for your customers or clients.

If the newsletter is distributed internally, you might comment upon new procedures or improvements to the business. Sales figures or earnings will show how your business is growing.

Some newsletters include a column that is updated

every issue, for instance, an advice column, a book review, a letter from the president, or an editorial. You can also profile new employees or top customers or vendors.

"To catch the reader's attention, place an interesting sentence or quote from the story here."

Inside Story Headline

This story can fit 75-125 words.

Selecting pictures or graphics is an important part of adding content to your newsletter.

Think about your article and ask yourself if the picture



Caption describing picture or graphic.

supports or enhances the message you're trying to convey. Avoid selecting images that appear to be out of context.

Microsoft Publisher includes thousands of clip art images from which you

can choose and import into your newsletter. There are also several tools you can use to draw shapes and symbols.

Once you have chosen an image, place it close to the article. Be sure to place the caption of the image near the image.

FCC PROPOSES WRC-RELATED RULES CHANGES

The FCC has proposed changes to the Part 97 Amateur Service rules as a result of actions taken at recent World Radio communication Conferences. In a Notice of Proposed Rule Making in ET Docket 02-16, released February 7, the FCC proposed to delete Section 97.401(b) from the rules along with references to international footnote S.5120.

Section 97.401(b) states that when normal communication systems are overloaded, damaged or disrupted because of a natural disaster in an area not regulated by the FCC, a station providing "essential communication" and "facilitating relief actions" may only do so in accord with ITU Resolution 640, which, under S.5120, specified use of the 80, 75, 40, 30, 20 17, 15, 12 and 2-meter bands.

Resolution 640 was eliminated at WRC-97, and S.5120 at WRC-2000. The FCC said US amateurs can continue to communicate with foreign stations in disaster areas under Section 97.111(a)(1) and Section 97.101(c).

In a footnote, the FCC pointed out that WRC-2000 deleted international footnote S.5124, which had allocated the band 3950 to 4000 kHz to the broadcasting service for domestic use in Canada. "Once the Canadian Government has implemented this allocation change, the band 3500-4000 kHz will be allocated exclusively to the amateur service in Canada," the FCC said.

ISS CREW COMMANDER TALKS WITH RUSSIAN STUDENTS VIA HAM RADIO

International Space Station Commander Yury Onufrienko, RK3DUO, this week chatted via Amateur Radio with students in Russia. The Amateur Radio on the International Space Station (ARISS) contact with Kursk Technical University took place at 0922 UTC February 28. It marked only the second ARISS QSO with a Russian school, and the first for Onufrienko. Using the RS0ISS call sign, Onufrienko spent the 10-minute pass answering questions in Russian from five students at RW3WWW, the club station at the school, located some 250 miles south of Moscow.

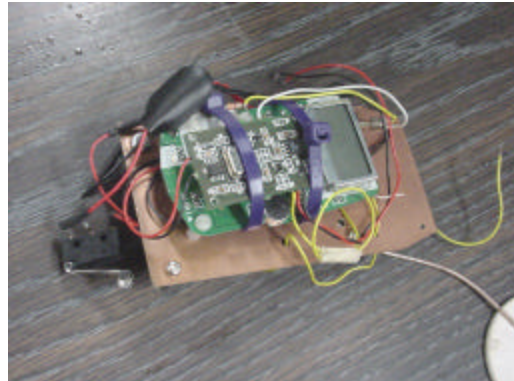
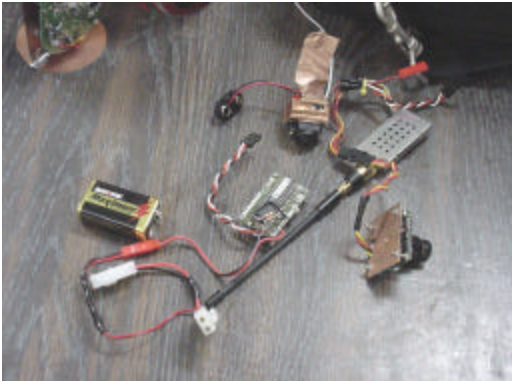
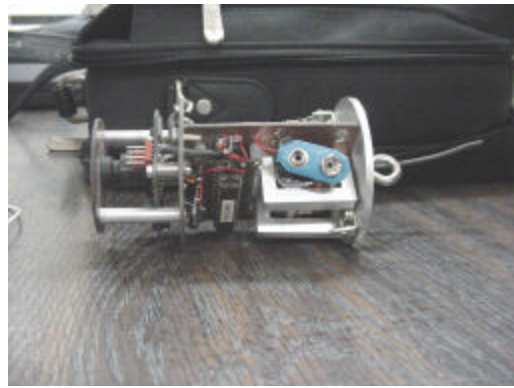
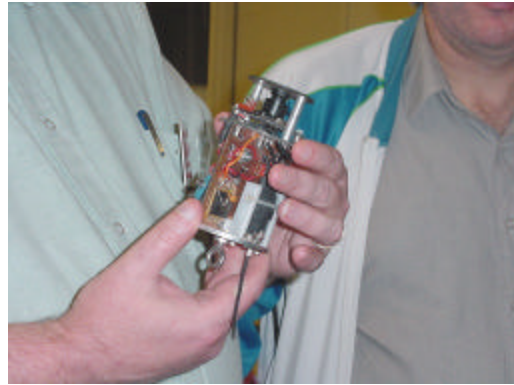
"The students were very excited and happy to talk to Yury," said club director Valery Pikkiev, RW3WW. Assisted by his son Dimitry, RA3WPS, Pikkiev battled reception problems that may have resulted from blocking of the space station's amateur antenna. The same problem was reported by an Italian listener, Andrea Bonaiuto, IT9GSV.

Despite the difficulties, the contact was considered a success by the students and a crowd of about 25 observers and reporters. The Kursk event was the 47th ARISS school contact since the first crew came aboard the ISS in November 2000.

Last July 4, US astronaut Susan Helms, KC7NHZ, took to the air as RS0ISS to speak with students at the Petersburg Junior Technical Center's club station, RZ1AWO. That QSO marked the first ARISS European school contact.

The all-ham Expedition 4 crew of Onufrienko, Carl Walz, KC5TIE, and Dan Bursch, KD5PNU, has been able to devote only limited time to ARISS school contacts during its duty tour. Three spacewalks during the crew's tour--two of them including the installation of new Amateur Radio antennas on the ISS Service Module--have eaten into time that might otherwise have been available for such activities. Each one-day spacewalk has involved the entire crew for more than five days. Plans had called for an average of one scheduled school contact per week, but crew members' free time continues to be at a premium--with a Progress rocket docking set for late March, and space shuttle and Soyuz taxi missions in April. The crew is due to return to Earth in mid-May. The ARISS operations team still hopes to arrange contacts during 2002 for each of the more than 40 schools now on the waiting list.

Photos from Dick Kors Presentation On Can Sat



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